BRUHATH BANGALORE MAHANAGARA PALIKE

Name of the Agency	:	**Mr. Ram Singh Chandra Naik,** Contractor, Bangalore.
Name of the Work	:	Improvements to roads, drains and asphalting to roads in Venkategowda Layout Kempapura 3rd Main in Ward No. 7, Byatarayanapura, BBMP, Bangalore.
Estimate Cost	:	Rs.

QUALITY CONTROL REPORTS TO

Asst. Executive Engineer,
Kodigehalli Sub Division,
BBMP, Bangalore.

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Building & Highway Material Testing Laboratory
NABL ACCREDITED LABORATOTY AS PER ISO / IEC – 17025:2005
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Basaveshwaranagar, Bangalore – 560 079.

QUALITY CONTROL REPORTS FOR

WET MIX MACADAM(WMM)

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Job No.: CTCE/BBMP/RSCN/WNo.07/WMM/Gradation/2014-15

03.06.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Mr. Ram Singh Chandra Naik,** Contractor, Bangalore.

Name of Work : Improvements to roads, drains and asphalting to roads in Venkategowda Layout Kempapura 3rd Main in Ward No. 7, Byatarayanapura, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/502/2013-14 Dated: 24.02.2014

Date of Testing : 03.06.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **7920**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	355	355	4.5	95.5	95-100
22.4	2610	2965	37.4	62.6	60-80
11.2	1315	4280	54.0	46.0	40-60
4.75	620	4900	61.9	38.1	25-40
2.36	1025	5925	74.8	25.2	15-30
0.600	775	6700	84.6	15.4	8-22
0.075	865	7565	95.5	4.5	0-8

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03.06.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Mr. Ram Singh Chandra Naik,** Contractor, Bangalore.

Name of Work : Improvements to roads, drains and asphalting to roads in Venkategowda Layout Kempapura 3rd Main in Ward No. 7, Byatarayanapura, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/502/2013-14 Dated: 24.02.2014

Date of Testing : 03.06.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **7390**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	285	285	3.9	96.1	95-100
22.4	2425	2710	36.7	63.3	60-80
11.2	1510	4220	57.1	42.9	40-60
4.75	825	5045	68.3	31.7	25-40
2.36	910	5955	80.6	19.4	15-30
0.600	555	6510	88.1	11.9	8-22
0.075	525	7035	95.2	4.8	0-8

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GRADATION FOR WMM
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Reference : EE/BTP/BBMP/E-PMT/502/2013-14 Dated: 24.02.2014

Date of Testing : 03.06.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **7405**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	260	260	3.5	96.5	95-100
22.4	2580	2840	38.4	61.6	60-80
11.2	1325	4165	56.2	43.8	40-60
4.75	845	5010	67.7	32.3	25-40
2.36	915	5925	80.0	20.0	15-30
0.600	575	6500	87.8	12.2	8-22
0.075	520	7020	94.8	5.2	0-8

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GRADATION FOR WMM
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Reference : EE/BTP/BBMP/E-PMT/502/2013-14 Dated: 24.02.2014

Date of Testing : 03.06.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **7795**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	205	205	2.6	97.4	95-100
22.4	2785	2990	38.4	61.6	60-80
11.2	1370	4360	55.9	44.1	40-60
4.75	935	5295	67.9	32.1	25-40
2.36	875	6170	79.2	20.8	15-30
0.600	650	6820	87.5	12.5	8-22
0.075	620	7440	95.4	4.6	0-8

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GRADATION FOR WMM
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Reference : EE/BTP/BBMP/E-PMT/502/2013-14 Dated: 24.02.2014

Date of Testing : 03.06.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **9420**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	305	305	3.2	96.8	95-100
22.4	2605	2910	30.9	69.1	60-80
11.2	1860	4770	50.6	49.4	40-60
4.75	1585	6355	67.5	32.5	25-40
2.36	1050	7405	78.6	21.4	15-30
0.600	985	8390	89.1	10.9	8-22
0.075	675	9065	96.2	3.8	0-8

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GRADATION FOR WMM
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Reference : EE/BTP/BBMP/E-PMT/502/2013-14 Dated: 24.02.2014

Date of Testing : 03.06.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **8310**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	175	175	2.1	97.9	95-100
22.4	2500	2675	32.2	67.8	60-80
11.2	1650	4325	52.0	48.0	40-60
4.75	1250	5575	67.1	32.9	25-40
2.36	980	6555	78.9	21.1	15-30
0.600	800	7355	88.5	11.5	8-22
0.075	600	7955	95.7	4.3	0-8

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Job No.: CTCE/BBMP/RSCN/WNo.07/WMM/AIV/2014-15

03.06.2014

Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Mr. Ram Singh Chandra Naik,** Contractor, Bangalore.
Name of the Work	Improvements to roads, drains and asphalting to roads in Venkategowda Layout Kempapura 3rd Main in Ward No. 7, Byatarayanapura, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/502/2013-14 Dated: 24.02.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	03.06.2014

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	378	380	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	79	82	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	299	298	
4	Aggregate Impact value = percent fines	20.90	21.58	
	100* (W_2/W_1)%			21.24

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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03.06.2014

Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Mr. Ram Singh Chandra Naik,** Contractor, Bangalore.
Name of the Work	Improvements to roads, drains and asphalting to roads in Venkategowda Layout Kempapura 3rd Main in Ward No. 7, Byatarayanapura, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/502/2013-14 Dated: 24.02.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	03.06.2014

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	381	384	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	82	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	299	299	
4	Aggregate Impact value = percent fines	21.52	22.14	
	100* (W_2/W_1)%			21.83

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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03.06.2014

Aggregate Impact Value

IS: 2386 Part IV

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Name of the Work	Improvements to roads, drains and asphalting to roads in Venkategowda Layout Kempapura 3rd Main in Ward No. 7, Byatarayanapura, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/502/2013-14 Dated: 24.02.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	03.06.2014

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	382	386	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	83	87	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	299	299	
4	Aggregate Impact value = percent fines	21.73	22.54	
	100* (W_2/W_1)%			22.13

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Job No.: CTCE/BBMP/RSCN/WNo.07/WMM/S-T/2014-15 03.06.2014

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Customer	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Mr. Ram Singh Chandra Naik,** Contractor, Bangalore.
Name of Work	Improvements to roads, drains and asphalting to roads in Venkategowda Layout Kempapura 3rd Main in Ward No. 7, Byatarayanapura, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/502/2013-14 Dated: 24.02.2014
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	03.06.2014

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Result : Flakiness Index = **11.36%**

Elongation Index = **13.28%**

Result : Combined Flakiness & Elongation index 24.64%

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

Note:

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DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Customer	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
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Reference	EE/BTP/BBMP/E-PMT/502/2013-14 Dated: 24.02.2014
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	03.06.2014

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Result : Flakiness Index = **11.51%**

Elongation Index = **13.48%**

Result : Combined Flakiness & Elongation index 24.99%

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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